

EMGT 835 FIELD PROJECT:
***CASE STUDY - PULLING THE PLUG ON A PRODUCT
DEVELOPMENT PROJECT***

By

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Table of Contents

Acknowledgements	3
Abstract.....	4
Literature Review	5
Executive Summary	7
<i>Product Definition</i>	<i>7</i>
<i>Project Participants</i>	<i>9</i>
<i>Project Results</i>	<i>10</i>
Procedure and Methodology	12
<i>Telephone Surveys.....</i>	<i>12</i>
<i>Third-Party Masked Surveys.....</i>	<i>13</i>
<i>Pro-forma Business Case Analysis</i>	<i>17</i>
Conclusion	18
Future Study.....	20
References.....	22
Appendix.....	23
<i>Exhibit 1 - Product data sheets</i>	<i>24</i>
<i>Exhibit 2 - Project team organizations</i>	<i>33</i>
<i>Exhibit 3 - Phone surveys.....</i>	<i>37</i>
<i>Exhibit 4 - On-line masked survey.....</i>	<i>42</i>
<i>Exhibit 5 - Pro-forma business case analysis</i>	<i>49</i>
<i>Exhibit 6 - SWOT Analysis</i>	<i>54</i>
<i>Exhibit 7 - Project Management Maturity.....</i>	<i>56</i>
<i>Exhibit 8 - 7-S model analysis.....</i>	<i>58</i>

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Abstract

Project success is traditionally defined as meeting the customer's expectations by conforming to the triple constraints of time, cost and quality. Since few projects are completed without changes in scope regarding the triple constraints, then it is still possible to consider a project as being successful without meeting the original time, cost and quality requirements. This belief holds true so long as the customer has agreed to the changes and is satisfied that the revised constraints have been met in the end.

However, many project managers and project team members would consider the termination of a project prior to completion as a failure regardless of scope changes. Sometimes project teams are so focused on bringing a project to a "successful" conclusion that they perceive any result other than delivering a final product or service to the customer as being a "failure". As is often the case, perception soon becomes reality and the project team as well as the entire organization can be negatively affected by the perceived failure.

This field project report chronicles a product development project that was terminated prior to delivery of a final product. During the assessment phase of this project it was determined that the final developed product would not meet the goals of the organization. While many individuals involved with this project may perceive its termination as evidence of failure, the lessons learned from this experience can help to support project success in the future.

Literature Review

Polycom® (2003) – *Polycom® Guide to Conferencing and Collaboration*. This is a white paper addressing the benefits of using video conferencing for virtual project team collaboration. A comprehensive overview of the equipment used in typical videoconferencing applications is presented. It also includes several case studies of video conferencing implementation and a useful glossary of terms.

The white paper is written at a level that is easily understood by the novice reader while, at the same time, it provides in-depth information that experienced individuals would find worthwhile. In particular, the case studies include examples of video-conferencing applications ranging from education to medicine to telecommunications. These narratives are detailed enough to lend insight into the application without overwhelming the reader with industry jargon.

Frost & Sullivan. 2003. *U.S. Videoconferencing Systems Market: A Strategic Analysis of Distribution Channels*. One very noteworthy finding from this extensive market research report is that while videoconferencing equipment vendors had traditionally focused on product feature differentiation, future competitive advantage will be gained by using a channel-centric approach. That is, complex product features can be implemented as meaningful applications for end users by using educated, motivated and efficient distribution partners to bridge the gap between the manufacturer and their customers.

This is particularly useful information for any organization that is considering entry into this market as an equipment supplier. Too often manufacturers and

others operating at the front end of the supply chain lose sight of the real needs of the end user. They over-emphasize the “bells and whistles” of their product while losing focus on the customer’s actual requirements.

This is especially pertinent to the project addressed in this report since the overseas manufacturing partner is so far removed from the end user. The Frost & Sullivan report stresses that it is the responsibility of the product development and product marketing groups of the distribution organization to convey the customer’s needs to the manufacturing partner as feedback in the product development process - a critical point that ultimately is a factor in making the decision to terminate this project.

Nortel Networks. 2005. *White Paper - The Role of Video in a SIP-Enabled Collaborative World*. This white paper sheds light on the future roadmap of videoconferencing equipment. Product solutions based on Session Initiation Protocol (SIP) will combine the simplicity of setting up a video conference using an intuitive graphic user interface with the cost savings of common desktop CPE and wireless handsets. SIP-enabled video will enhance mobility as users gain access to video conferencing from virtually anywhere.

The future of videoconferencing as predicted in this white paper factored into the final decision to terminate this project. The limited window of opportunity to market the current product design of the overseas manufacturing partner, coupled with their unwillingness to rapidly update the design contributed to the executive sponsor’s determination to abandon the project.

Executive Summary

This case study of a product development project concerns a video conferencing product line. This study addresses the product line to be developed, the parties involved with the project and the reasons for terminating the project. Lessons learned from the project as well as suggestions for follow-up and future study are also covered in this case study.

Product Definition

The goal of the project was to develop a full line of house-branded video conferencing equipment for sale into the domestic market. This house-branded product line would be derived from an existing product line that was being manufactured and marketed in Asia. The full product line would consist of the following equipment and software. Detailed product data sheets are included as Exhibit 1 in the Appendix.

- Service Management Center which implements the functions of centralized resources management, centralized sites management, dynamic topology, automatic conference scheduling, service status output, third-party interfaces including third-party conference scheduling interface, third-party billing interface and third-party authentication interface.
- Gatekeeper software to be responsible for network call control and call routing in an IP network. It must be designed as a flexible, scalable software gatekeeper that runs on a PC or server without any hardware card

requirement. It implements the functions of endpoint registration management, endpoint calling management, calling bandwidth management, endpoint address resolution, neighbor gatekeeper management and agent service. All the videoconferencing components in an IP communication network such as H.323 MCU, H.323 video terminal, H.323 gateway can be managed by the gatekeeper.

- Mediacyenter which is an advanced compact video switching platform over an IP network. It features highly integrated design, large capacity, and abundant conference functionalities combining video, audio and data processing. It offers a robust solution for remote multimedia collaboration and communications over IP networks. The mediacyenter is to be housed in an easy-to-install standard 19-inch by 1U standard chassis which can be mounted into a standard 19-inch cabinet.
- High-end H.320/H.323 dual-mode videoconferencing terminals, which support IP, ISDN, V35, and E1 interfaces and offer the highest performance in a user-friendly rack-mounted system.
- Mid-level H.320/H.323 dual-mode videoconferencing terminals, which support IP and ISDN interfaces and offer high performance while being affordably priced in a user-friendly rack-mounted system.
- Lower cost H.320/H.323 dual-mode videoconferencing terminals with embedded camera, which support IP, ISDN, and E1 interfaces and offer good performance in a user-friendly set-top system.

- Desktop videoconferencing software and USB cameras for personal usage over a broadband network with simple hardware configuration, intuitive GUI and good video & audio quality.

Project Participants

The direct participants in this project can be organized into the following groups:

- Product Development including the department director, business unit manager and product development engineer. This group develops house-branded OEM products for its parent organization.
- Product Marketing including the vice president, department director, product category manager and product manager. This is the parent organization for the OEM Product Development group.
- Overseas manufacturing partner including their executive vice president of marketing & sales, executive adviser, business development director, senior channel manager, enterprise accounts director and technical marketing specialist for the video conferencing product line.

Support personnel from the various functional groups (e.g. finance, marketing communications, operations, manufacturing, etc.) for all organizations represented were also involved as required. See Exhibit 2 in the Appendix for additional reference information on these organizations.

Project Results

After over twelve months of development effort, the project was abandoned for numerous reasons as outlined in the following paragraphs.

While the overseas manufacturing partner had a successful track record of developing and deploying video conference solutions in their own domestic market, they could not overcome the cultural differences to succeed in developing product for the US market. The US market requires a customer-centric approach while the overseas manufacturing partner was unwilling to invest in all of the product revisions necessary to meet the US market requirements.

For example, the housing and packaging of the overseas manufacturing partner's product line had a more industrial look than that of the incumbent suppliers.

However, they would not invest in the tooling changes needed to revise the product line's appearance since they had been successful with this same design in their local market. Their domestic customers placed greater emphasis on functionality rather than form. The overseas manufacturer refused to recognize the value that US customers place on product appearance.

As the parent organization for Product Development, Product Marketing kept adjusting the bar higher for the overseas manufacturing partner in terms of product requirements, collateral support and co-operative marketing funds. This is the typical approach when seeking a collaborative venture with domestic manufacturers who understand the risks and rewards. However, the overseas

manufacturing partner was unwilling to make these incremental investments in developing the product line for the US market.

The parent organization eventually felt that it would be extremely difficult to take market share from the incumbent suppliers in this product category. They have strong brand recognition and a solid base of distributors and value-added resellers. In fact, the parent organization was already distributing product for the leading market share supplier of this product category. As the project progressed, the product management group for the parent organization showed increasing reluctance to take on a new supplier in this category for fear of upsetting the incumbent supplier who might threaten to pull their entire product line from the parent organization's distribution chain.

During development it became apparent that there would be a limited window of opportunity for this product category in its current configuration. With advancements in broadband technology and deployment, the video conferencing market is moving from a group solution to a desktop product. The product configuration for this business case was too heavily weighted in favor of group solutions and not focused on developing new technology in the desktop category.

In summary, this product development project was terminated due to cultural differences in business approach between the overseas supplier and the domestic distributor organization, continual scope changes instigated by the distributor organization, political infighting within the distributor organization and an impending technology shift for the product category.

Procedure and Methodology

In order to gauge the potential market acceptance of a house-branded video conference equipment product line, the Product Marketing group conducted brief telephone surveys and followed up with third-party, online, masked surveys of their potential customers. Product configuration feedback was also embedded within the methodology as a means to collect product design input for the overseas manufacturing partner. The following two sub-sections provide details on the survey methods and results. The final sub-section includes a pro-forma business case analysis.

Telephone Surveys

The brief telephone surveys were drafted by the Product Marketing group and conducted by members of both Product Development and Marketing. The surveys consisted of fourteen questions covering the topics of competition, market, price, service, products and dealer programs. A mixture of open-ended and direct questions was used. The target audience for the survey consisted of the existing base of customers for the parent distribution organization in the videoconferencing equipment market space. The Product Marketing group reviewed the qualitative results obtained from the phone surveys. They determined that these results indicated a need for further in-depth surveying of the market. See Exhibit 3 in the Appendix for reference samples of completed telephone surveys.

Third-Party Masked Surveys

Based on the qualitative results of the phone surveys, the Product Marketing group decided to employ a third-party firm to conduct a research project to qualitatively evaluate the current state of and outlook for the videoconferencing equipment market. In addition, they were to gauge value-added reseller reactions to the concept of a house branded line of products. The study was conducted using masking since the parent distribution organization was already distributing videoconferencing products from other manufacturers. The masking technique utilized the same brand-specific questions about the parent organization as well as other brands without revealing to the respondent which company was conducting the research.

The overall objective of the study was to generate a comprehensive overview of the marketplace, including important manufacturers, distribution channels, customer needs and industry outlook. The study focused on the following objectives:

- Understand the needs and drivers of brand use among value-added resellers.
- Understand customer attitudes toward the parent organization and potential receptivity to a house-branded product.
- Identify end-user attitudes and behaviors and understand how they affect the market.

- Identify unmet needs and potential opportunities among resellers.
- Understand the effect current margin pricing structures have on the decision to recommend a particular brand.
- Determine the direction of the market.

It should be noted that qualitative research such as this is meant to be used as guidance in the decision-making process rather than as empirical evidence of facts. Its optimum use is for revealing patterns and trends that represent majority opinion which can contribute to better decision-making. Therefore, the overall objective of this research was to develop a go/no-go recommendation for executive management regarding the introduction of a house-branded product line.

Due to the exploratory nature of the objectives, an online qualitative methodology was employed. Email invitations were sent to both current and potential customers. The sample of potential customers was acquired through a list broker and consisted of subscribers to an industry periodical. Twenty simultaneous in-depth interviews were conducted over a three day period. Questions were presented daily and the respondents could review and reply at their leisure throughout the day. The participants were paid for taking part in the study. The specific questions posed during the survey are shown in Exhibit 4.

Following is a summary of the conclusions from the on-line masked survey results.

- This is a volatile and rapidly changing market, filled with aggressive competitors.
- The market is growing and will continue to grow, but there will likely be significant consolidation on the road to maturity.
- Prices for equipment will continue to drop as videoconferencing becomes easier to use and more widely adopted.
- The market leader is clearly vulnerable due to its eagerness to add resellers to its network and the attendant pressure on margins that result.
- While a higher commission structure will create reseller interest, incentives themselves will not guarantee the success of a brand.
- As a major player, the market leader could negatively affect any margin/pricing strategy that a new market entrant might have, further commoditizing the low end of the market.

Furthermore, the survey recommended that if the parent organization were to proceed forward with developing a house-branded product line, then it should do so utilizing a product strategy that takes into account what this study has reported about the market. For example, flexibility would need to be designed into the product, so that customers are only buying what they really need. In addition, the

necessary management, support personnel and capital resources would need to be devoted to the development and maintenance of a high-quality product line.

Market strategy recommendations included the following advice:

- Limit the number of distributors in any particular area
- Always use the value-added reseller network for sales.
- Build in a large commission structure for the resellers
- Communicate a serious and long-term commitment to the industry.
- Concentrate on IT managers for marketing/messaging.

An alternate strategy recommendation from the market research firm was for the parent organization to investigate acquiring a struggling player in the market, re-brand its product line and optimize the marketing approach according to these findings.

Although it was beyond the original scope of the research project, the third party market research firm did caution the parent organization about possible repercussions among manufacturers for whom they were currently distributing videoconferencing products. The parent organization was also warned about the challenges associated with developing a network of value-added resellers to address the videoconferencing equipment market without affecting the organization's focus on its core business.

Pro-forma Business Case Analysis

To move forward in the development process, it was necessary to perform a quantitative business case analysis for determining the feasibility of entering into the videoconferencing equipment market with a house-branded product line. The Finance department of the parent organization requires the completion of a pro-forma business case before moving forward with product development projects of this magnitude.

A formatted spreadsheet maintained by the Finance department is used for calculating net present value and economic value added. The necessary fields are completed in the spreadsheet by a financial analyst based on input from the project team. The project team provides the analyst with estimates of annual revenue, sales costs and operating expenses.

Analysis was conducted for business cases of \$2M, 4M, 7.5M and 10.6M in annual revenue. The net present value and economic value added calculations in each case indicated that the annual revenue generated by this product development project will not support the sales costs and operating expenses associated with it. The analysis is based on a cost of capital equal to 10% and in none of the cases is the net present value or economic value added a positive number which would indicate that the project is worth pursuing from a financial standpoint. See Exhibit 5 for details of the business case analysis.

Conclusion

After obtaining the results of the market research and business case analysis, it was determined by the Product Marketing group's Vice President, who was the executive sponsor of the project, to terminate it. His rationale is summarized in this excerpt from the correspondence he sent to the manufacturing partner's

Business Development Director:

"I believe that our teams have worked together to thoroughly evaluate the opportunity for these video conferencing products by assessing the U.S. market, evaluating the products and competitors, gathering customer input, and measuring the feasibility of this business case. Unfortunately, we have decided not to pursue a broad introduction of this product into the United States."

"While you are a very successful manufacturer of quality videoconferencing products, it will be extremely difficult to displace the incumbent suppliers. This is a specialized product category and the targeted and aggressive video conferencing distributors and master value-added resellers who are dependent on the incumbent suppliers are very good at addressing the vertical markets. We believe that, based on technology advancements, there is a limited window of opportunity as videoconferencing moves from group to desktop applications. This does not allow sufficient time to get to market and build sales momentum. Our ability to penetrate the market in this short window will be further hampered by the fact that you do not currently have a US following and we are not perceived as a videoconferencing equipment manufacturer. In addition, the sales,

support and marketing resources required made the pro forma cost prohibitive. We cannot meet the financial and revenue objectives necessary to be successful in this product category at this time. Market price erosion could further complicate this issue. These primary reasons prevented our team from approving the business case at this time. Therefore, there will be no major product launch of your videoconferencing products with our house brand at this time.”

On the surface this project was terminated by executive management for tangible reasons related to the project’s inability to support the organization’s financial goals. It was not terminated due to the classic examples of project failure such as ineffective planning, scheduling, estimating, or cost control or even due to the typical qualitative reasons such as poor morale or lack of motivation.

However, underlying the tangible reasons for terminating the project is an implication that there was a lack of commitment on the part of certain members of the project team. For example, the overseas manufacturing partner was unwilling to reduce their minimum order requirements or to contribute cooperative funds to help overcome market entry obstacles. This negatively affected the business case analysis by increasing the operating expenses and cost of sales. The Product Marketing group of the parent organization did not want to fully commit to the project for fear of upsetting their incumbent suppliers in this product category and risking the loss of their existing revenue stream. While neither of these examples are true causes of project failure in and of themselves, each contributed significantly to the decision to terminate the project.

Future Study

There are apparent conflicts between the product development group and its parent organization which contributed to the termination of this project. Some serious soul-searching for this organization is recommended in order to resolve these conflicts. Opportunities for future study include the following approaches to identifying and correcting the root causes of the discord that exists within the organization.

The first step in analyzing the situation would be to perform a SWOT (Strengths-Weaknesses-Opportunities-Threats) analysis. An example of a brief SWOT analysis for the organization as a whole can be found in Exhibit 6 in the Appendix. This example was developed in an earlier EMGT course and would need to be updated to reflect the current state of the organization. For the purpose of improving the organization's project management methodology, the SWOT analysis could be applied from a project management perspective.

Another opportunity for future study would be for the Product Development group and its parent organization to evaluate themselves against the Project Management Maturity Model. This would help the organization to identify the gaps in their project management methodologies which contribute to project failures. Exhibit 7 in the Appendix includes a sample questionnaire that could be completed by the organization to help determine its level of project management maturity. This exercise should also help to improve project planning and reduce

the number of projects that are terminated or allowed to “die-on-the-vine” due to a lack of commitment.

Another suggestion for identifying opportunities for improvement would be to perform a 7-S model analysis of the organization. Exhibit 8 in the Appendix contains both a current state and a desired future state 7-S model for the Product Development group. This analysis was performed in an earlier EMGT course. A similar analysis could be conducted using the organization as a whole.

Regardless of whether these suggestions for future study are attempted, it might be advised to first perform a situational analysis of the overall organization before conducting any in-depth or specialized investigations. Since this project was terminated, the organization has undergone some dramatic changes including the installment of a new president and an alteration in strategic direction. The current organization is now more focused on addressing the carrier markets (i.e. RBOCs and other traditional telecom service providers) at the expense of their enterprise customers. By first performing a situational analysis of the overall organization based on its current configuration and revised strategy, a more solid foundation will be in place for doing further studies to identify opportunities to improve this organization’s project management methodology.

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Appendix

- Exhibit 1: Product data sheets*
- Exhibit 2: Project team organizations*
- Exhibit 3: Phone surveys*
- Exhibit 4: On-line masked survey*
- Exhibit 5: Pro-forma business case analysis*
- Exhibit 6: SWOT analysis*
- Exhibit 7: Project Management Maturity survey*
- Exhibit 8: 7-S model analysis*

Exhibit 1 - Product data sheets

ViewPoint 8630

—Compact IP-Based MCU

The ViewPoint 8630 is an advanced compact video switching platform over IP network, which combining video, audio and data processing. It features *highly integrated design, large capacity, and abundant conference functionalities*. It offers a robust solution for multimedia collaboration and communications over IP networks.

Simple Installation

The ViewPoint 8630 is housed in an 19" x 1U standard chassis which can be mounted into a standard 19-inch cabinet.

Large Capacity

The ViewPoint 8630 can support at most 96 subscribers access and 48 concurrent conferences. The ViewPoint 8630 supports various types of conference including audio conferences with 16kbps connection speed and video conferences with at most 2Mbps connection speed, thus enlarging the scope of IP-based multimedia communication. In addition, the ViewPoint 8630 can be stacked or cascaded to provide larger capacities.

Conference Control

The ViewPoint 8630 provides an abundance of conference controls for videoconference participants. The SiteCall function allows the convenor to initiate a conference at a terminal side, which is as convenient as making a phone call. The ViewPoint 8630 also provides Chair control, through which the Chair can view/broadcast/mute/add/drop any site, organize continuous presence, and prolong the conference. Voice-activated conference mode for popular video seminar is also available.

Transcoding Capability

Transcoding technology allows sites with different connection speeds and audio algorithms to join the same conference.

Digital Continuous Presence

The ViewPoint 8630 provides 4-split-screen continuous presence for at most 48 groups of concur-



rent CP conferences, and 9 layouts when working with the ViewPoint group terminals. It also supports voice-activated CP switching mode.

Far End Camera Control

Far end camera control is available in the course of a multipoint conference. With this feature, users can apply controls over the remote camera including pan, tilt, zoom, focus, positions preset, and cameras select.

Flow Control

After creating a conference, the up-video speed from each site in the conference can be adjusted by the system automatically to reduce the bandwidth consumed, so that improve efficiency of IP network.

Multicast Conference Mode

When a conference is being in broadcasting mode, the ViewPoint 8630 will automatically switch to multicast mode to save transmission bandwidth.

Special Service Number

The special service number enable the endpoints to join in the conference by dialing the fixed special service number. participants need not remember a complicated conference number.

Network Adaptability

The effective QoS technologies including packet reordering, packet loss compensation, jitter correction, and lip synchronization, provide unmatched network adaptability, and essential for IP networks based on packet switching.

Simple Maintenance

The ViewPoint 8630 provides power-on self-test function, status LCD, event log, remote telnet configuration and upgrade tools, with which users can easily maintain the system.

ViewPoint 8620E

— Integrated Video Switching Platform for Enterprises

The ViewPoint 8620E video switching platform is designed for enterprise video communications, which features *high reliability, H.320/H.323 /Telephone integrated access and abundant conference functionalities.*



Switching Architecture

The ViewPoint 8620E is constructed in a 19" standard cabinet and modularized into swappable boards, employed the switching technology with high-speed backplane buses. It has Active/Standby, swappable, load sharing, and lightning proof leading features.

Active/Standby Switchover

The ViewPoint 8620E employed redundant design of core modules, which support system control, video switching, conference control, clock synchronization, and call management, etc.

Load Sharing

The power supply of the ViewPoint 8620E also adopted redundant design. The loads can be shared by all the power supply cards to avoid them working in full load mode.

H.320/H.323/Telephone Integrated Access

The ViewPoint 8620E can be simultaneously linked to multiple communication networks, including narrowband networks based on circuit-switching such as E1/T1/PRI/V.35 and broadband networks based on packet-switching tech-

nology such as 100MBaseT. Users can easily hook their H.320/H.323/Telephone endpoints to VP8620E via existed networks.

Multi-level Cascading

The ViewPoint 8620E can be stacked or cascaded with multi-levels to expand access capacity.

Multi-group Conferences

The ViewPoint 8620E supports video and audio combined conference, with data conferences all together, at most 32 groups of concurrent conferences. Each conference is independent in control and operation.

SiteCall

The videoconference can be set up and terminated directly by the user at the end-point side, which means holding a conference as easy as making a phone call.

Digital Continuous Presence

The ViewPoint 8620E can offer DCP (digital continuous presence) in 6 kinds of layout for multi-group concurrent conferences. Each layout can be chosen by either the Chair or the administrator in the conference, and the largest window is also set as fixed or voice activated.

ViewPoint 8620

—Carrier-class, Integrated Video Switching Platform

The ViewPoint 8620 video switching platform employed video switching, voice mixing and data collaboration in a single rack with *high reliability, powerful access capability and abundant conference functionalities*, can construct high-level video network for telecom carrier.



Switching Architecture

The ViewPoint 8620 is constructed on switching platform with high-speed backplane buses, hot-swappable and front-accessible boards. It boasts a high performance equal to that of a standard telephony switch in the aspects of redundant design, load sharing, and lightning proof technologies.

Active/Standby Switchover

The ViewPoint 8620 is based on redundant design of core modules including system control, video switching, conference control, clock synchronization, and call management, etc.

Load Sharing

The power supply of the ViewPoint 8620 also adopts redundant design. The loads of the entire machine are shared by multiple power supply modules so that to avoid full-load working.

H.320/H.323 Compatibility

The ViewPoint 8620 can be used over multiple communication networks including narrowband networks based on circuit-switching technology and broadband networks based on packet-switching technology. Users can access H.320 and H.323 system without another external gateway.

Multi-network Access

The ViewPoint 8620 offers broad connectivity with IP, PRI, E1/T1, V.35 and PSTN access capability, thus provides videoconferencing service over all kinds of networks.

Multi-level Cascading

The ViewPoint 8620 can be stacked or cascaded to expand access capacity.

Multiple Groups of Conference

The ViewPoint 8620 combines both video conferences and audio conferences. It supports at most 64 concurrent conferences. Each conference can be convened and controlled separately.

SiteCall

The videoconference can be set up, convened and terminated directly by operator at terminal side, which is as convenient as making a phone call.

Continuous Presence

The ViewPoint 8620 provides multiple concurrent CP conferences with up to 9 kinds of layout. Each layout can be changed on the fly by both the Chair or the administrator, and the largest window can be set as fixed or voice-activated.

ViewPoint 8060

— Video Terminal for Board Room

The ViewPoint 8060 series products are the high-end H.320/H.323 *dual-mode* codec terminals with embedded camera, which offer *IP, ISDN, and E1 interfaces and high performances.*



Simple Installation

The highly compact design, main camera embedded, and colored equipment interfaces making installation easier.

Configuration

The configuration navigator and default setting allow users to complete the system configuration at once.

Intuitive GUI

The ViewPoint 8060 provides not only a user-friendly graphic interface, but also a web interface based on IE browser. These features allow users to hold a videoconference at user-end.

Video Quality

Thanks to the patented ViewProcessing algorithm, the video is clear and smooth. Large area flashing and sawtooth edge are effectively eliminated. The video frame goes up to 30fps via H.263+ enhanced video standards.

Audio Quality

Full-duplex digital audio with Acoustic Echo Cancellation (AEC), Automatic Noise Suppression (ANS) and Automatic Gain Control (AGC) meliorate audio clearer and louder.

DualView Transmission

Two active scenes can be transmitted simultaneously to the remote sites in PIP mode on a single monitor.

Desktop Transmission

All the applications running in the local PC such as PowerPoint slides, Word documents etc. can be sent to the remote sites in real time, and displayed on TV or Monitor/Projector via VGA.

Conference Mode

The ViewPoint 8060 supports H.320 or H.323 calls via IP, ISDN and E1 networks, and H.331 broadcasting mode. It can also support remote collaboration via T.120 data conference.

SiteCall —Fast as Making a Phone

By selecting site names from the address book, A multi-point conference can be created and control by the end-user at any terminal side, no need reservation or help of other persons.

Comprehensive Conference Control

Both H.320 and H.323 conference control functions are offered during a multi-point conference.

Superior Network Adaptability

Auto call and QOS technologies are employed to ensure the conference continuity in case of transmission network unreliable, such as ISDN network interruptions or high bit errors, and serious packet loss in the IP network.

Environment Adaptability

The intelligent cooling design boosts working conditions, make system workable at even 45°C environment temperature.

ViewPoint 8030mBox

— Video Terminal for Large Room

The ViewPoint 8030mBox series products are the high-end H.320/H.323 *dual-mode* codec terminals, which offer *IP, ISDN, V35, E1 interfaces, and highest performances.*



Installation

The compact codec terminal, which is connected with cameras via cables. Cameras can be mounted at anywhere of conference room.

Configuration

The configuration navigator and default setting allow users to complete the system configuration at once.

Intuitive GUI

The ViewPoint 8030mBox provides not only a user-friendly graphic interface, but also a web interface based on IE browser. These features allow users to hold a videoconference at user-end.

Video Quality

Thanks to the patented ViewProcessing algorithm, the video is clear and smooth. Large area flashing and sawtooth edge are effectively eliminated. The video frame goes up to 30fps via H.263+ enhanced video standards.

Audio Quality

Full-duplex digital audio with Acoustic Echo Cancellation (AEC), Automatic Noise Suppression (ANS) and Automatic Gain Control (AGC) meliorate audio clearer and louder.

DualView Transmission

Two active scenes can be transmitted simultaneously to the remote sites in PIP mode on a single monitor.

Desktop Transmission

All the applications running in the local PC such as PowerPoint slides, Word documents etc. can be sent to the remote sites in real time, and displayed on TV or Monitor/Projector via VGA.

Conference Mode

The ViewPoint 8030mBox supports H.320 or H.323 calls via IP, ISDN and E1 networks, and H.331 broadcasting mode. It can also support remote collaboration via T.120 data conference.

SiteCall—Fast as Making a Phone

By selecting site names from the address book, A multi-point conference can be created and control by the end-user at any terminal side, no need reservation or help of other persons.

Comprehensive Conference Control

Both H.320 and H.323 conference control functions are offered during a multi-point conference.

Superior Network Adaptability

Auto call and QOS technologies are employed to ensure the conference continuity in case of transmission network unreliable, such as ISDN network interruptions or high bit errors, and serious packet loss in the IP network.

Excellent Environment Adaptability

The intelligent cooling design boosts working conditions, make system workable at even 45°C environment temperature.

ViewPoint 8032

— Video Terminal for small Room

The ViewPoint 8032 series products are the H.320/H.323 simplified video terminals, which offer IP and ISDN interfaces and high performances



Installation

The compact codec terminal, which is connected with cameras via cables. Cameras can be mounted at anywhere of conference room.

Configuration

The configuration navigator and default setting allow users to complete the system configuration at once.

Intuitive GUI

The ViewPoint 8032 provides not only a user-friendly graphic interface, but also a web interface based on IE browser. These features allow users to hold a videoconference at user-end.

Video Quality

Thanks to the patented ViewProcessing algorithm, the video is clear and smooth. Large area flashing and sawtooth edge are effectively eliminated. The video frame goes up to 30fps via H.263+ enhanced video standards.

Audio Quality

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ViewPoint Service Management Center

— Video Communication Management Server

In traditional videoconferencing system, MCUs or GKs are separate entities. Users have to know if MCU has sufficient resources and schedule conferences on the console of this MCU. When setting up a cascaded conference, things become even more complicated. As a result, the MCU's resource utilization is unbalanced and conferencing is inconvenient. The ViewPoint SMC centralizes MCU resources and sites management, dynamic topology, automatic conference scheduling, service status output, third-party interfaces including conference scheduling, billing and authentication interfaces.



Features and Benefits

Centralized Resources Management

All the resources in the switching layer including MCUs, SwitchCentres and data conference servers can be allocated by the ViewPoint SMC which at most can manage 128 MCUs, 50 GKs, 128 DCSs. In this case, cascaded conferences can be created automatically.

Centralized Sites Management

The ViewPoint SMC can record down the information of the sites distributed in the user layer. At most 100000 sites' information can be managed by a ViewPoint SMC. The ViewPoint SMC creates a conference according to the video numbers of sites for conference given by the conference convener.

Dynamic Topology

After getting the information of the conference wanted, the ViewPoint SMC will first check and dispatch the resources for the conference. If cascading is needed, the ViewPoint SMC will dynamically stack the MCUs to optimize network resources.

Centralized Conference Management

The ViewPoint SMC provides centralized conference management including conference scheduling, conference convening, conference status monitoring, conference control, conference ending, conference prolonging. All the abovementioned functions are available for conferences over multiple MCUs.

ViewPoint SwitchCentre

— Powerful Videoconferencing Routing Server

The ViewPoint SwitchCentre is of flexibility, scalability, which runs on a PC or server. It implements the functions of endpoint registration, endpoint calling and calling bandwidth management, endpoint address resolution, neighbor SwitchCentre management and agent service. It is an important component for large video IP network.



Features and Benefits

Registration Management

Up to 4000 endpoints can register on the ViewPoint SwitchCentre. The ViewPoint SwitchCentre is responsible for the endpoint registration authentication and network segment registration limitation. There are four authentication modes available for the administrator: IP address authentication, H.323 ID plus password authentication, E.164 alias plus password authentication and third-party server authentication.

Calling Management

The ViewPoint SwitchCentre supports up to 1000 concurrent calls with the endpoints calling authority under its control.

Bandwidth Management

The ViewPoint SwitchCentre can set the maximum calling bandwidth for each endpoint or network segment, thus optimize the congestion on the IP network.

Address Resolution

The endpoint address resolution function allows the user to set up calling by using names and numbers of the endpoints so to simplify the IP calling. Users need not memorize the complex IP address.

Neighbor SwitchCentre

The neighbor SwitchCentre management mechanism allows the ViewPoint SwitchCentre to process the inter zone communication which make the calling routing between different zones more efficient and reliable, up to 500 other SwitchCentres can be deployed as neighbors of a ViewPoint SwitchCentre.

Video Agent Service

A group of endpoints with the same number can be set as video agency. If endpoints call the service number, the system will automatically arrange the idle endpoint to provide the service.

Exhibit 2 - Project team organizations

About Sprint North Supply

Sprint North Supply is a supply chain integrator serving network service providers, manufacturers and resellers throughout North America. With approximately 1,100 employees, including experts in logistics; engineering, integration and deployment; and telecommunications equipment, Sprint North Supply offers supply chain solutions recognized for their innovation, effectiveness, and efficiency. Sprint North Supply's logistics network, comprised of best-in-class IT systems and strategically located distribution centers, provides customers a highly reliable infrastructure to meet a wide variety of supply chain needs.

Main Number	Toll Free	Annual Revenues
913-791-7000	800-755-3004	\$0.8 billion (2004 sales)
Product Inventory Stocked	Inventory Value	Manufacturers Represented
36,000+	\$140 million+ (Sprint owned) \$400 million+ (customer owned)	1,500+
Distribution Centers		
Los Angeles, California Kansas City, Kansas	Orlando, Florida Dayton, New Jersey	Warsaw, Indiana Fayetteville, North Carolina
Top Officers & Personnel		
Jim Mayfield <i>President</i>	Brad Clark <i>Vice President, Marketing</i>	Dave Platt <i>Vice President, Strategic Sourcing</i>
Dick Summers <i>Vice President, Logistics</i>	Jeff Nelson <i>AVP, Field Sales and Client Solutions</i>	Employees 1,100

Company Headquarters
Sprint North Supply's corporate offices are located in southern metropolitan Kansas City. All customer service, order entry and logistics operations are coordinated through this facility.

Company History			
1905	Founded as Union Electric in Abilene, Kansas	1988	Surpasses \$500 million in annual sales
1965	Union Electric becomes United System Supply	1988	Launches engineer, furnish & install (EF&I) service
1971	United System Supply merges into North Electric and begins selling products to non-affiliated customers	1991	Assumes central warehousing functions for all United Telecom operating companies
1977	North Electric's manufacturing divisions are sold to ITT; North Supply remains a separate subsidiary of United Telecom	1993	North Supply Company adopts new name, Sprint North Supply
		1996	Initiates sales and service into wireless markets
		1997	Surpasses \$1.1 billion in annual sales
		1998	Installs automated order picking systems (pick modules) in two distribution centers; completes a major addition to the Kansas City distribution center
		1999	Introduces Web-based e-commerce catalog
		2002	Launches new Web store and best-in-class IT infrastructure
		2004	EF&I and logistics groups gain TL 9000 certification

Company Description

Sprint Products Group, a wholly owned subsidiary of Sprint North Supply, is Sprint's original equipment manufacturing (OEM) arm. The group functions as a manufacturer of communications products and a strategic sourcing solution for network service providers and OEM's. Emphasizing quality assurance and customer support, Sprint North Supply markets a broad range of Sprint products including outside plant, wire and cable, tools and supplies, business communication systems, telephones and accessories, CCTV, network access and commodity products under the Sprint, Premier®, or private-label brands.

Company History

1983	Sprint Products Group was founded as NorthCom Group, Inc., the source of proprietary telecom products to be offered exclusively through North Supply	1991	Introduces Premier's Answer Digital ISDN-ready Hybrid/PBX and the Flair family of single and two-line feature phones	1999	Initiates CPE product fulfillment services, web-based support center for dealers, and e-commerce site
1987	NorthCom becomes Premier Telecom Products, Inc.; introduces Premier ESP key system, Premier's two-line desk telephone, and miscellaneous Premier products and terminal equipment	1993	Premier Telecom Products becomes Sprint Products Group Inc.; introduces Sprint Protégé digital key system along with new wire management system	2000	Enters into broadband CPE with DSL and cable modems/routers and ancillary products
1989	Introduces Premier Expression Voice Processing, the Premier ESPDX Digital Hybrid/PBX system, and the Delight telephone; expands outside plant, network and transmission product lines	1998	Releases Series 7000 feature telephones for hospitality and business applications along with enhanced structured wiring system products	2004	Introduces a new portfolio of Sprint business communications systems including the Sprint i-Series™ IP Key Systems, IPx-Series™ Converged PBXs and k-Series™ Digital Hybrid Key System
				2004	Gains ISO 9001:2000 certification

Sprint

Company Description

Sprint offers an extensive range of innovative communication products and solutions, including global IP, wireless, local and multiproduct bundles. A Fortune 100 company with more than \$27 billion in annual revenues in 2004, Sprint is widely recognized for developing, engineering and deploying state-of-the-art network technologies, including the United States' first nationwide all-digital, fiber-optic network; an award-winning Tier 1 Internet backbone; and one of the largest 100-percent digital, nationwide wireless networks in the United States. For more information, visit www.sprint.com.

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sprint.com

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Huawei Technologies

- A private high-tech company established in 1988 and fully owned by its staff (employee stock option plan)
- A growing supplier of telecom infrastructure and customized network solutions
- Over 22,000 staff members (10,000 more engaged in R&D); more than 10% annual revenue invested in R&D (US\$363 million in 2002); major products on self-designed ASIC chips.
- 32 world-wide branch offices outside China and 33 local offices in China
- Products in wide applications in over 40 countries, including Germany, France, Spain, Russia, Brazil, Egypt, Singapore, Thailand and South Korea.



partner for a networked world

2

Huawei in North America--- Futurewei

- ☑ **Founded in March 2001**
- ☑ **Dallas-based, one of the Telecom Corridor companies**
- ☑ **Provides network solutions for our US and Canadian customers**
- ☑ **Offers prompt technical support to its customers.**
- ☑ **Locations:**
 - **San Jose, CA**
 - **Reston, VA**
 - **Plano, TX (North American HQ)**



partner for a networked world

11

Exhibit 3 - Phone surveys

Sprint Id

Date _12-23-03_____

Select Titanium, then Platinum Vars

Customer number _012444_____

Purchasing agent/Product manager

Customer name _Ron Richter_____

American Technology – Coral dealer

Customer phone number __801-261-4300_____

Customer email address _____

AD

Customer Survey Questions Video Conference Equipment

Competition

1. What manufacturers do you sell now and why are they a good fit for you?

Polycom

2. What do they do well? Poorly?

Happy with Polycom

- *3. Would you be receptive to selling another major brand product that has better margins and is comparable in quality to your current supplier?

When need comes

Market

4. Do you see a growing opportunity to sell VC products?

Yes

5. Are there vertical markets that you currently target (govt, ed, health, etc.)?

Mostly commercial businesses

6. Where's the biggest opportunity in VC?

Commercial market

7. Do you see any regional differences in purchase patterns (some markets using more VC or have more new building construction, which offers opportunities to sell)

No

Price

- *8. What margin range, would be an incentive to sell these products?

30%

Service

9. What types of maintenance agreement would you need?
10. What type of technical support do you require (phone, in-person, 24/7)?
None
11. What other type of support/information would be helpful (marketing, sales guides, etc.)?

Products

12. What types of products do you purchase or need?
Wire/Cable and Coral System products

Dealer Program

13. Is a Dealer Program important to you?
Depends on product
14. What benefits would you like to see (exclusive price benefits, service, education, etc.)

Sprint Id

Date _12-24-03_____

Select Titanium, then Platinum Vars

Customer number _017039_____

Purchasing agent/Product manager

Customer name __Ron Zuckerman_____TVR Communications_____

Customer phone number ____718-335-3031_____

Customer email address _____

PB

Customer Survey Questions

Video Conference Equipment

Competition

1. What manufacturers do you sell now and why are they a good fit for you?

Polycom, Tandberg

2. What do they do well? Poorly?

Basic videoconferencing-Polycom (no margins), Tandberg- great for the education market and for room integration. New Polycom product uses H.264.

*3. Would you be receptive to selling another major brand product that has better margins and is comparable in quality to your current supplier?

Yes—margins are already a concern. The technology and quality is a commodity, so the quality should at least be the same.

Market

4. Do you see a growing opportunity to sell VC products?

The market in our area is flat...hopefully we will be seeing and uptick in the next year.

5. Are there vertical markets that you currently target (govt, ed, health, etc.)?

Education is the main market, also minimal government. Hopefully healthcare in the coming year

6. Where's the biggest opportunity in VC?

Education and healthcare

7. Do you see any regional differences in purchase patterns (some markets using more VC or have more new building construction, which offers opportunities to sell)

None-Mostly in New York State

Price

- *8. What margin range, would be an incentive to sell these products?
Depends on services I can wrap around; 50-100% if possible.

Service

9. What types of maintenance agreement would you need?
All services-phone, in-person , 24/7 and advance replacements
10. What type of technical support do you require (phone, in-person, 24/7)?
All services-phone, in-person , 24/7 and advance replacements
11. What other type of support/information would be helpful (marketing, sales guides, etc.)?
Collateral, Sales and installation guides

Products

12. What types of products do you purchase or need?
Basic videoconferencing products and services

Dealer Program

13. Is a Dealer Program important to you?
Yes—helps to maintain prices and certification
14. What benefits would you like to see (exclusive price benefits, service, education, etc.)
Certifications, bundles, training, and timely advanced replacements

Exhibit 4 - On-line masked survey

Video Conferencing Survey

Thank you for agreeing to participate in our survey regarding video conferencing products!

Your opinions are very important to us. Your information will be kept strictly CONFIDENTIAL and only reported in aggregate. No one will ever contact you as a result of this survey.

First we'd like a little information about your company's background

1. How many people are employed at the location you work from including yourself? (Select one answer.)

Less than 25
25-49
50-99
100-499
500 or more

2. How many people are employed by your company nationwide (including your location)? (Select one answer.)

Only have one location
Less than 25
25-49
50-99
100-499
500 or more

3. Approximately how many years has your company been in business? (Select one answer.)

Less than 10
10-19
20-29
30-39
40-49
50 or more

4. What were your company's total 2002 revenues? Your best estimate is fine. (Enter a whole dollar amount without cents.)

5. Approximately what percentage of this revenue comes from video conferencing equipment? (Enter a whole percentage amount.)

6. Does your company anticipate an increase in revenue from video conferencing products in 2004?

Yes

No (SKIP TO Q8)

Don't Know (SKIP TO Q8)

7. What percentage increase in revenue does your company anticipate receiving from video conferencing products in 2004? (Enter a whole percentage amount.)

8. What role do you play in the purchasing of products and services for your company? Do you... (Select all that apply.)

Authorize purchases

Evaluate and/or recommend vendors

Set overall strategy

9. Which of the following types of video conferencing products are you currently selling? (Select all that apply.)

Accord

Adtran

Aethra

Cisco

CLI

Intel

Panasonic

Polycom

RadVision

RSI

Sony

Starbak

Tanberg

VCON

VTEL

Other (Please specify.)

Don't Know

10. Which ONE do you sell the most of?

Accord

Adtran

Aethra

Cisco

CLI

Intel

Panasonic

Polycom

RadVision

RSI

Sony
Starbak
Tanberg
VCON
VTEL
Other (Please specify.)
Don't Know

11. How important is each of the following in your decision of which video conferencing products to represent? Please use a 10-point scale where '1' means Not at all Important and '10' means Extremely Important.

How important is....

Price
Reliability
Brand
Availability
Client preferences
Flexibility
Quality
Value
Application of product
Current relationship with manufacturer
Customer service/support
Current client usage

12. How important is each of the following attributes to your customers when purchasing video conferencing equipment. Please use the same 10-point scale where '1' means Not at all Important and '10' means Extremely Important.

How important is....

Dual ISDN/IP capability
Easy to use and understand
PC presentation capability
Audio quality
Desktop video system
Video quality
Internet access
Interactive Whiteboards
Conference room systems
Design aesthetics
Ability to upgrade in the future

13. Which of the same product attributes is most important to your customers? Please rank the attributes using a '1' to notate the most important attribute, a '2' to notate the second most important attribute and so on.

Dual ISDN/IP capability
Easy to use and understand
PC presentation capability
Audio quality
Desktop video system
Video quality
Internet access
Interactive Whiteboards
Conference room systems
Design aesthetics
Ability to upgrade in the future

14. How likely would you be to sell another line of branded video products that would potentially have better margins and be comparable in quality, features and flexibility to your current products?

Extremely likely
Very likely
Somewhat likely
Somewhat unlikely
Very unlikely
Extremely unlikely

Now we are going to talk about some specific companies that could potentially manufacture video conferencing equipment, namely Mitel, Northern Telecom, Sprint North Supply and Verizon.

15. First, of the four companies listed, please rank which brand is the best fit for this product by putting a '1' by the company that's the best fit, a '2' by the one that's the second best fit and so on.

Mitel
Northern Telecom
Sprint North Supply
Verizon

16. Assuming their products were equal to or better than competitors, how likely would you be to carry each company's video conferencing equipment? Please use a 10-point scale where '1' is Not at all Likely and '10' is Extremely Likely.

How likely would you be to carry...
Mitel
Northern Telecom
Sprint
Verizon

17. If each company were to manufacture its own line of video conferencing products, would it be better to brand it with the company's brand or a new and different name?

	Company's brand	New Name
Mitel	<input type="checkbox"/>	<input type="checkbox"/>
Northern Telecom	<input type="checkbox"/>	<input type="checkbox"/>
Sprint	<input type="checkbox"/>	<input type="checkbox"/>
Verizon	<input type="checkbox"/>	<input type="checkbox"/>

18. For each company, do you see them manufacturing low end or high end video conferencing products? By low end, we mean products that are usually less than \$5,000 or are simple such as conference rooms. By high end, we mean products that are more than \$5,000 or are more application oriented.

	Low End Products	High End Products	Both Types	Neither Type
Mitel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Northern Telecom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sprint	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Verizon	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. How do you think your current video conferencing equipment suppliers would react to a new competitor? Please be sure to mention if you think one brand might cause a different reaction than another. **(PLEASE BE AS SPECIFIC AND DETAILED AS POSSIBLE)**

20. How would your current end clients react to video conferencing equipment manufactured by each company? Please use a 10-point scale where '1' is Not at all Favorably and '10' is Extremely Favorably.

Not at all Favorably					No Opinion					Extremely Favorably
1	2	3	4	5	6	7	8	9	10	

21. How important is it to you that a new manufacturer entering the VTC market limit the number of distributors in any particular area and always use the VAR network for sales. Please use the same 10-point scale where '1' means Not at all Important and '10' means Extremely Important.

22. How would a new brand need to be priced in order to successfully enter the market?

The same as the other leaders in the category
 At least 5% less
 6-10% less
 11-15% less
 16-20% less
 More than 20% less

23. What margin range would be an incentive for you to sell this new brand's products?

At least 10%

11-20%

21-30%

31-40%

41-50%

51-60%

24. What other factors would influence your consideration of a new company considering entering the video conferencing market? **(PLEASE BE AS SPECIFIC AND DETAILED AS POSSIBLE)**

Thanks for all of your help! We appreciate your time and opinions.

Exhibit 5 - Pro-forma business case analysis

PCT OF SALES	14.56%		23.00%		23.00%		-45
DROP SHIP SALES	119,487,000		-		-		Inventory Turns
COST OF SALES	109,598,000		-		-		4.00
GROSS MARGIN	9,889,000		-		-		Capital Investment
PCT OF SALES	8.28%		#DIV/0!		#DIV/0!		
EF&I REVENUE	9,501,000		-		-		
SERVICE REVENUE	-		-		-		
TOTAL REVENUES	837,539,000		2,000,000		2,000,000		A/R Investment
COST OF SALES	715,008,000		1,540,000		1,540,000		\$ 219,178.08
GROSS MARGIN	122,531,000		460,000		460,000		Accounts Payable
PCT OF TOTAL REVENUES	14.6%		23.00%		23.00%		\$ 189,863.01
INCREMENTAL COSTS		% of Revenues		% of Revenues		% of Revenues	Inventory Invest.
FREIGHT - INBOUND	9,217,000	1.10%	-	0.00%	-	0.00%	\$ 385,000.00
FREIGHT - OUTBOUND	12,094,000	1.44%	5,314	0.27%	5,314	0.27%	
FREIGHT - BILLED TO CUST.	(5,562,000)	-0.66%	-	0.00%	-	0.00%	
INVENTORY PROVISION	2,500,000	0.30%	-	0.00%	-	0.00%	
OTHER INDIRECTS	(4,850,000)	-0.58%	-	0.00%	-	0.00%	
SALES INCENTIVE COMP	-	0.00%	-	0.00%	-	0.00%	
Other Costs	-	0.00%	93,938	4.70%	93,938	4.70%	
SALES EXPENSES	22,414,000	2.68%	623,990	31.20%	623,990	31.20%	
Lease Payments	-	0.00%	-	0.00%	-	0.00%	
EF&I Contract LABOR	-	0.00%	-	0.00%	-	0.00%	
DC LABOR	-	0.00%	1,500	0.08%	4,150	0.21%	
IT COSTS - INCREMENTAL	-	0.00%	-	0.00%	-	0.00%	
SPRINT MGT FEE	-	0.00%	-	0.00%	-	0.00%	
ADD'L DEPRECIATION	-		533	0.03%	533	0.03%	
TOTAL DIRECT EXPENSES	35,813,000	4.28%	725,274	36.26%	727,924	36.40%	
CONTRIBUTION MARGIN	86,718,000	10.35%	(265,274)	-13.26%	(267,924)	-13.40%	
ALLOCATIONS - FIXED COSTS							
CORPORATE ADMINISTRATION	35,901,000	4.3%	85,730	4.3%	85,730	4.3%	
DISTRIBUTION CENTER COSTS	32,582,000	3.9%	77,804	3.9%	77,804	3.9%	
RNG SPECIFIC DEPRECIATION	17,632,000	2.1%	39,460	2.0%	39,460	2.0%	
TOTAL OPERATING EXPENSES	108,529,000	13.0%	202,994	10.1%	202,994	10.1%	
OPERATING PROFIT	(21,811,000)	-2.60%	(468,268)	-23.4%	(470,918)	-23.55%	
Interest Expenses	2,348,000	0.28%	28,624	1.4%	28,624	1.43%	
Other dividend/Interest Income	-	0.00%	0		0		
Taxes	(8,564,000)	-1.02%	(198,757)	-9.9%	(198,757)	-9.94%	
Net Income	(15,595,000)	-1.86%	(298,135)	-14.9%	(300,785)	-15.04%	
EVA	(44,407,296)		(360,357)		(363,007)		
Contribution Margin EVA			\$ (251,937)		\$ (253,648)		

SNS User:
Freight number based on \$309.97 per month at 1.4M in sales. This cross multiplies and raises to \$2M in sales

Cash Requirement

SNS User:
One level 76 Engineer for SPG at fully loaded salary (base x 1.35). Also includes \$600/mo - \$7200/yr T1 line per Jake Sloan

SNS User:
Based on \$4M in sales DIVIDED BY 2 to bring down to \$2M. Commissions from Janis of \$110,404 at GM 23%. Includes Marketing expenses from Rob Harris' emailed revised spreadsheet with the title 'Notes from 3/17/04 Video Conferencing Meeting. They total \$410,000 (based on \$4M sales). Also includes fully loaded salaries w/ benefits (base x 1.35) one 76 Marketing person and 2 FSRs + SPG dealer recruiter.

SNS User:
Based on 500 ship lines per year which assumes \$4M in sales. Then divided by 2 to bring down to \$2M in sales. Includes DC labor and packing supplies.

SNS User:
\$3000 packing supplies for \$4M sales. Divided by 2 for \$2M sales.

NPV CALCULATION:**Video Conferencing - \$2M**

	<u>Year 0</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
TOTAL REVENUES		2,000,000	-	-	-	-
COST OF SALES		1,540,000	-	-	-	-
INCREMENTAL OPERATING EXP.		<u>725,274</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
CONTRIBUTION MARGIN		(265,274)	-	-	-	-
TAXES		<u>(92,847)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
NOPAT		(172,427)	-	-	-	-
DEPRECIATION ADD BACK		<u>533</u>	<u>533</u>	<u>533</u>	<u>533</u>	<u>(532)</u>
INCREMENTAL CASH FLOW		(171,894)	533	533	533	(532)
CAPITAL INVESTMENT	-	-	-	-	-	-
CHANGE IN WORKING CAPITAL	794,041	(794,041)	-	-	-	-
FREE CASH FLOW	(794,041)	622,148	533	533	533	(532)
PV FACTOR (11% Cost of Capital)	1.00	1.11	1.23	1.37	1.52	1.69
PV OF CASH FLOW	(794,041)	560,493	433	390	351	(316)
CUMMULATIVE PV OF CASH FLOW	(794,041)	(233,548)	(233,115)	(232,725)	(232,374)	(232,690)
NPV	\$	(232,690)				

ProForma:
Video Conferencing - \$4M

Video Conferencing - \$4M

REVENUE	SNS '04 Budget	Incremental Costs	Costs	Incremental plus Opportunity	EVA Factors
DISTR. CNTR SALES	708,551,000	4,000,000	4,000,000		Days to Collect
COST OF SALES	605,410,000	3,080,000	3,080,000		40.00
GROSS MARGIN	103,141,000	920,000	920,000		Days to Pay
PCT OF SALES	14.56%	23.00%	23.00%		-45
DROP SHIP SALES	119,487,000	-	-		Inventory Turns
COST OF SALES	109,598,000	-	-		4.00
GROSS MARGIN	9,889,000	-	-		Capital Investment
PCT OF SALES	8.28%	#DIV/0!	#DIV/0!		SNS User: Freight number based on \$309.97 per month at 1 in sales. This cross multiplies and raises to 1 in sales
EF&I REVENUE	9,501,000	-	-		Cash Requirements
SERVICE REVENUE	-	-	-		A/R Investment
TOTAL REVENUES	837,539,000	4,000,000	4,000,000		\$ 438,356.16
COST OF SALES	715,008,000	3,080,000	3,080,000		Accounts Payable
GROSS MARGIN	122,531,000	920,000	920,000		\$ 379,726.03
PCT OF TOTAL REVENUES	14.6%	23.00%	23.00%		Inventory Invest.
INCREMENTAL COSTS					\$ 770,000.00
FREIGHT - INBOUND	9,217,000 1.10%	- 0.00%	- 0.00%		SNS User: One level 76 Engineer for SPG at fully loaded salary (base x 1.35). Also includes \$600/mo - \$7200/yr T1 line per Jake Sloan.
FREIGHT - OUTBOUND	12,094,000 1.44%	10,628 0.27%	10,628 0.27%		
FREIGHT - BILLED TO CUST.	(5,562,000) -0.66%	- 0.00%	- 0.00%		
INVENTORY PROVISION	2,500,000 0.30%	- 0.00%	- 0.00%		
OTHER INDIRECTS	(4,850,000) -0.58%	- 0.00%	- 0.00%		
SALES INCENTIVE COMP	- 0.00%	- 0.00%	- 0.00%		
Other Costs	- 0.00%	93,938 2.35%	93,938 2.35%		SNS User: Based on \$4M in sales. Commissions from Janis of \$110,404 at GM 23%. Includes expenses from Rob Harris' emailed revised spreadsheet with the title 'Notes from 3/17/04 Video Conferencing Meeting. They total \$410,000. Also includes fully loaded salaries w/ benefits (base x 1.35) for one 76 Marketing person and 2 FSRs w/ benefits (base x 1.35) + 1 SPG dealer recruiter.
SALES EXPENSES	22,414,000 2.68%	884,192 22.10%	884,192 22.10%		
Lease Payments	- 0.00%	- 0.00%	- 0.00%		
EF&I Contract LABOR	- 0.00%	- 0.00%	- 0.00%		
DC LABOR	- 0.00%	3,000 0.08%	8,300 0.21%		
IT COSTS - INCREMENTAL	- 0.00%	- 0.00%	- 0.00%		
SPRINT MGT FEE	- 0.00%	- 0.00%	- 0.00%		
ADD'L DEPRECIATION	-	533 0.01%	533 0.01%		
TOTAL DIRECT EXPENSES	35,813,000 4.28%	992,290 24.81%	997,590 24.94%		
CONTRIBUTION MARGIN	86,718,000 10.35%	(72,290) -1.81%	(77,590) -1.94%		
ALLOCATIONS - FIXED COSTS					
CORPORATE ADMINISTRATION	35,901,000 4.3%	171,459 4.3%	171,459 4.3%		SNS User: Based on 500 ship lines per year which assumes \$4M in sales. Includes DC Labor and Packing Supplies
DISTRIBUTION CENTER COSTS	32,582,000 3.9%	155,608 3.9%	155,608 3.9%		
RNG SPECIFIC DEPRECIATION	17,632,000 2.1%	78,920 2.0%	78,920 2.0%		
TOTAL OPERATING EXPENSES	108,529,000 13.0%	405,988 10.1%	405,988 10.1%		
OPERATING PROFIT	(21,811,000) -2.60%	(478,277) -12.0%	(483,577) -12.09%		
Interest Expenses	2,348,000 0.28%	57,209 1.4%	57,209 1.43%		
Other dividend/Interest Income	- 0.00%	0	0		
Taxes	(8,564,000) -1.02%	(214,195) -5.4%	(214,195) -5.35%		
Net Income	(15,595,000) -1.86%	(321,292) -8.0%	(326,592) -8.16%		
EVA	(44,407,296)	(445,652)	(450,952)		
Contribution Margin EVA		\$ (207,954)	\$ (211,375)		

NPV CALCULATION:**Video Conferencing - \$4M**

	<u>Year 0</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
TOTAL REVENUES		4,000,000	-	-	-	-
COST OF SALES		3,080,000	-	-	-	-
INCREMENTAL OPERATING EXP.		<u>992,290</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
CONTRIBUTION MARGIN		(72,290)	-	-	-	-
TAXES		<u>(23,250)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
NOPAT		(49,039)	-	-	-	-
DEPRECIATION ADD BACK		<u>533</u>	<u>533</u>	<u>533</u>	<u>533</u>	<u>(532)</u>
INCREMENTAL CASH FLOW		(48,506)	533	533	533	(532)
CAPITAL INVESTMENT	-	-	-	-	-	-
CHANGE IN WORKING CAPITAL	1,588,082	(1,588,082)	-	-	-	-
FREE CASH FLOW	(1,588,082)	1,539,576	533	533	533	(532)
PV FACTOR (11% Cost of Capital)	1.00	1.11	1.23	1.37	1.52	1.69
PV OF CASH FLOW	(1,588,082)	1,387,006	433	390	351	(316)
CUMMULATIVE PV OF CASH FLOW	(1,588,082)	(201,077)	(200,644)	(200,254)	(199,903)	(200,219)
NPV	\$	(200,219)				

Exhibit 6 - SWOT Analysis

Strengths

- Long history in wireline telecommunications equipment distribution
- Affiliated with a global telecommunications corporation
- Well-recognized brand name in telecommunications industry
- Recently invested over \$100 MM to deploy best-in-class IT infrastructure to become web-enabled
- Nationwide footprint of distribution centers
- Long-term relationships with well-respected telecom equipment manufacturers

Weaknesses

- Lacking in business diversification – focused on a single industry
- Overall business direction driven by corporate parent
- Annual revenue is a small fraction of total corporate revenue
- Has traditionally been a very risk-averse organization

Opportunities

- Telecom equipment spending is recently trending upwards
- New telecom technologies (e.g. VoIP) are being deployed
- E-Business – many customers/suppliers migrating to the web for procurement purposes

Threats

- Competitors continue to diversify their product portfolios outside the telecom equipment space (e.g. electrical equipment and consumer electronics distribution)
- Global terrorism casting a dark shadow over economic expansion
- Cable MSOs expanding into traditional voice service market, thereby reducing the market for traditional voice equipment
- Wireless substitution for wireline service is increasing

Exhibit 7 - Project Management Maturity

Draft of Assessment Questionnaire
To Determine An Organization's Capability to Perform Project Management

Assessment services. The concept here is to create a quick, easy to use tool that can be used to assess an organizations capability to perform and execute projects successfully. The tool would be modeled after the G12 questions which Gallup has created. The reader may want to go to the Gallup web site, www.gallup.com, click on performance management, then click on employee engagement and review the G12 questions and concept. A preliminary set of PM assessment questions follows:

No.		Strongly Disagree		Agree	Strongly Agree	
		1	2	3	4	5
1a.	For every approved project the following exists: An identified Project Sponsor					
1b.	An identified Project Manager					
1c.	An agreed to project scope					
1d.	An agreed to project schedule					
1e.	An agreed to project budget					
1f.	A known project customer					
2.	The PM has access to and authority to marshal the people resources needed to complete the project on time and on budget.					
3.	The project accounting system provides the PM with timely, accurate, useable information.					
4.	There is a workable system in place to authorize changes in scope, schedule, and or budget.					
5.	Project teams work in cohesive groups.					
6.	Projects communications are timely and effective.					
7.	Members of the project team know and understand their task assignments, budgets and schedules.					
8.	On each project there is a defined method to measure and track project quality.					
9.	Networking is effective so that project teams can learn from one another.					
10.	PM's know how to recognize, mitigate, and manage project risk.					
11.	Rework is minimal.					
12.	The product of the project, when delivered to the customer the first time, is what the customer wanted.					

Exhibit 8 - 7-S model analysis

7-S model of SPG's current state

Shared Value	Successful product development projects – released to market on time and meeting revenue targets.
Strategy	Top down management drives strategic decision making. Corporate level decisions define strategic direction. Systems are selected by top-level management and force fit into lower levels of organization.
Skills	On-the-job training emphasized. Professional certification not required. Non-degreed line managers.
Staff	Highly dependent on management for decision making. Weak empowerment. Frequent turnover. Inadequate staffing levels to fully support business needs.
Structure	Hierarchical. Multi-layered management. Aligned by functional business units.
Systems	Selection and implementation driven by upper-level management. Enterprise resource planning and customer relationship management systems are configured for a distribution-based business model and not for an OEM model.
Style	Highly dependent upon past practices. Lack of innovation. Limited freedom to explore new opportunities.

7-S model of the desired future state for SPG

Shared Value	Successful product development projects – released to market on time and meeting revenue targets
Strategy	Empowered teams drive strategy with buy-in from upper-level management. Corporate decisions provide high-level guidance only.
Skills	Formal training provided. Pursuit of advanced education opportunities encouraged and supported. Professional certification required. Cross-training.
Staff	Sufficient staffing levels to fully support business needs. Empowered by management to make decisions.
Structure	Flat and teamed based. Project management model utilizing functional business units for subject matter expertise.
Systems	Selected and implemented by individual business units to fit their unique needs.
Style	Creativity is valued. Pursuing new approaches is encouraged. Empowerment freely awarded. Accountability widely accepted.